

Fig. 1A DNA and Amino Acid Sequence of Variable Region of FR1-H7 Heavy Chain

Heavy chain variable region sequence (cDNA)

ATGGCCGAGGTGCAGCTGGTGCAGTCTGGGGCTGAGGTGAAGAAGCCTGGG
GCCTCAGTGAAGGTTTCCTGCAAGGTTTCTGGATACACCTTCACCGACTACTA
CATGCACTGGGTGCAACAGGCCCCTGGAAAAGGGCTTGAGTGGATGGGACTT
GTTGATCCTGAAGATGGTGAACAATCTACGCAGAGAAGTTCAGGGCAGAG
TCACCATAACCGCGGACACGTCTACAGACACAGCCTACATGGAGCTGAGCAG
CCTGAGATCTGAGGACACGGCCGTGTATTACTGTGCGAGAGATGACTACATG
GACGTCTGGGGCAAAGGCACCCTGGTCACCGTCTCAAGCGCCTCCACCAAGG
GCCCA

Heavy chain variable region sequence (amino acid)

MAEVQLVQSGAEVKKPGASVKVSCKVSGYTFTDYMHVWVQQAPGKGLEWMG
LVDPEDETIYAEKFQGRVTITADTSTDYAYMELSSLRSEDYAVYYCARDYMD
VWGKGTLVTVSSASTKGP

Fig. 1B DNA and Amino Acid Sequence of Variable Region of FR1-H7 light Chain

Light chain variable region sequence (cDNA)

CTTGAAACGACACTCACGCAGTCTCCAGACACCCTGTCTTTGTCTCCAGGAGA
AGGAGCCACCCTCTCCTGTAGGGCCAGTCAGAGTGTTAGCGGCAGTGCGTTG
GCCTGGTACCAGCAGAAACCTGGCCAGGCTCCCAGACTCCTCATCTATGATG
CATCCAGTAGGGCCACTGGCGTCCCAGACAGGTTCAGTGGCAGTGGGTCTGG
GGCAGACTTCAGTCTCACCATCAGCAGACTGGAGCCTGAAGATTTTGCAGTG
TATTCCTGTCAGCAATATGGTAGCTCACCTCTCACTTTCGGCCCTGGGACCAA
AGTGGATGTCAAACGAACTGTGGCTGCACCATCTGTCTTCATCTTCCCGCCAT
CTGATGAGCAGTTGAAATCTGGAACTGCCTCTGTTGTGTGCCTGCTGAATAAC
TTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGATT

Light chain variable region sequence (amino acid)

LETTLTQSPDTLSLSPGEGATLSCRASQSVSGSALAWYQQKPGQAPRLLIYDASS
RATGVDPDRFSGSGSGADFSLTISRLEPEDFAVYSCQQYGSSPLTFGPGTKVDVKR
TVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVD

Fig. 1C CDRs For FR1-H7 Nucleic Acid Sequences

VH (human heavy chain subclass I)

CDR1 GACTACTACATGCAC

CDR2 CTTGTTGATCCTGAAGATGGTGAAACAATCTACGCAGAGAAGTTCCAGGGC

CDR3 GATGACTACATGGACGTC

VL (human kappa light chain subgroup III)

CDR1 AGGGCCAGTCAGAGTGTTAGCGGCAGTGCGTTGGCC

CDR2 GATGCATCCAGTAGGGCCACT

CDR3 CAGCAATATGGTAGCTCACCTCTCACT

Fig. 1D CDRs For FR1-H7 Amino Acid Sequences

VH (human heavy chain subclass I)

CDR1	DYYMH
CDR2	LVDPEDGETIYAEKFQG
CDR3	DDYMDV

VL (human kappa light chain subgroup III)

CDR1	RASQSVSGSALA		
CDR2	DASSRAT		
		CDR3	QQYGSSPLT

Fig. 2A DNA and Amino Acid Sequence of Variable Region of FR1-A1 Heavy Chain

Heavy chain variable region sequence (cDNA)

ATGGCCCAGGTCCAGCTGGTGCAGTCTGGGGCTGAGGTGAAGAAGCCTGGGT
CCTCGGTGAAGGTCTCCTGCAAGGCTTCTGGATCGACCTTCACCGGCTACTAT
ATGCACTGGGTGCGACAGGCCCTGGACAAGGGCTTGAGTGGATGGGAAGG
ATCATCCCTATCCTTGGTATAGCAAACCTACGCACAGAAGTTCCAGGGCAGAG
TCACGATTACCGCGGACAAATCCACGAGCACAGCCTACATGGAGCTGAGCAG
CCTGAGATCTGAGGACACGGCCGTGTACTACTGTGCGAGAGGAGGAGATCTG
GGCGGTATGGACGTCTGGGGCCAAGGGA

Heavy chain variable region sequence (amino acid)

MAQVQLVQSGAEVKKPGSSVKVSCKASGQTFTGYMHWVRQAPGQGLEWMG
RIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDVAVYYCARGGDLGG
MDVWGQG

Fig. 2B DNA and Amino Acid Sequence of Variable Region of FR1-A light Chain

Light chain variable region sequence (cDNA)

CTTGAAATTGTGCTGACTCAGTCTCCACTCTCCCTGCCCGTCACCCCTGGAGA
GCCGGCCTCCATCTCCTGCAGGTCTAGTCAGAGCCTCCGGCATAGTAATGGA
TACAACTATTTGGATTGGTACCTGCAGAAGCCAGGGCAGTCTCCACAGCTCCT
GATCTATTTGGCTTCTAATCGGGCCTCCGGGGTCCCTGACAGGTTCAAGTGGCA
GTGGATCAGGCACAGATTTTACACTGAAAATCAGCAGAGTGGAGGCTGAGGA
TGTTGGGGTTTATTACTGCATGCAAGCTCTACAAATTCCTCCGACTTTCGGCC
CTGGGACCAAAGTGGATATCAAACGAACTGTGGCTGCA

Light chain variable region sequence (amino acid)

LEIVLTQSPLSLPVTPGEPASISCRSSQSLRHSNGYNYLDWYLQKPGQSPQLLIYL
ASNRASGVPDRFSGSGSGTDFTLKISRVEAEDVGVYYCMQALQIPPTFGPGTKVD
IKRTVAA

Fig. 2C CDRs For FR1-A1 Nucleic Acid Sequences**VH (human heavy chain subclass I)**

CDR1 GGCTACTATATGCAC

CDR2 AGGATCATCCCTATCCTTGGTATAGCAAACCTACGCACAGAAGTTCCAGGGC

CDR3 GGAGGAGATCTGGGCGGTATGGACGTC

VL (human kappa light chain subgroup II)

CDR1 AGGTCTAGTCAGAGCCTCCGGCATAGTAATGGATACAACTATTTGGAT

CDR2 TTGGCTTCTAATCGGGCCTCC

CDR3 ATGCAAGCTCTACAAATTCCTCCGACT

Fig. 2D CDRs For FR1-A1 Amino Acid Sequences

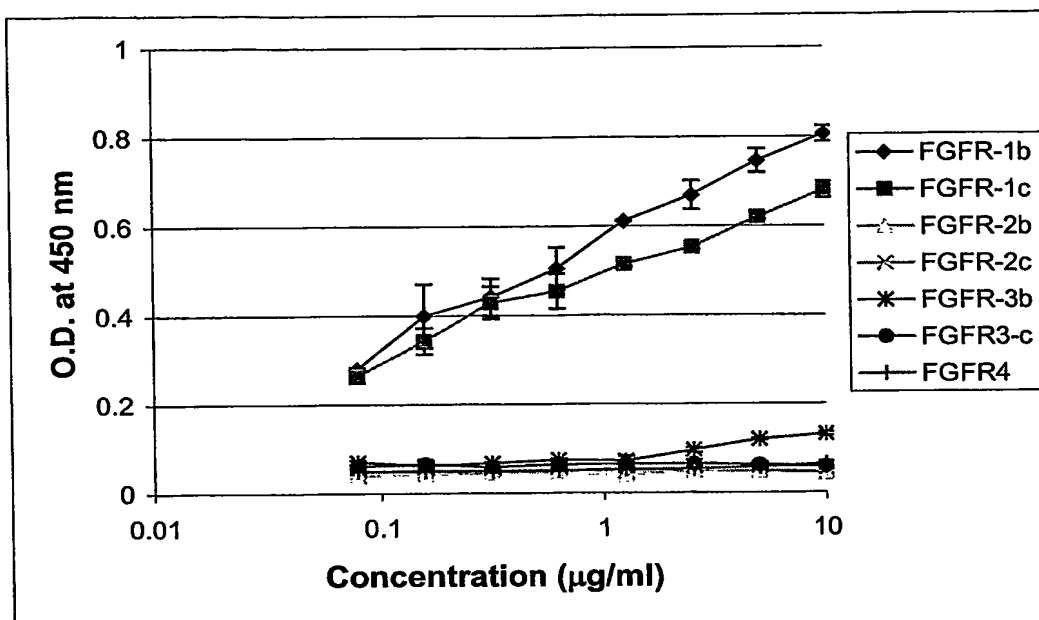
VH (human heavy chain subclass I)

CDR1	GYMH
CDR2	RIIPILGIANYAQKFQG
CDR3	GGDLGGMDV

VL (human kappa light chain subgroup II)

CDR1	RSSQSLRHSNGYNYLD
CDR2	LASNRAS
CDR3	MQALQIPPT

Fig. 3



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Fig. 4A

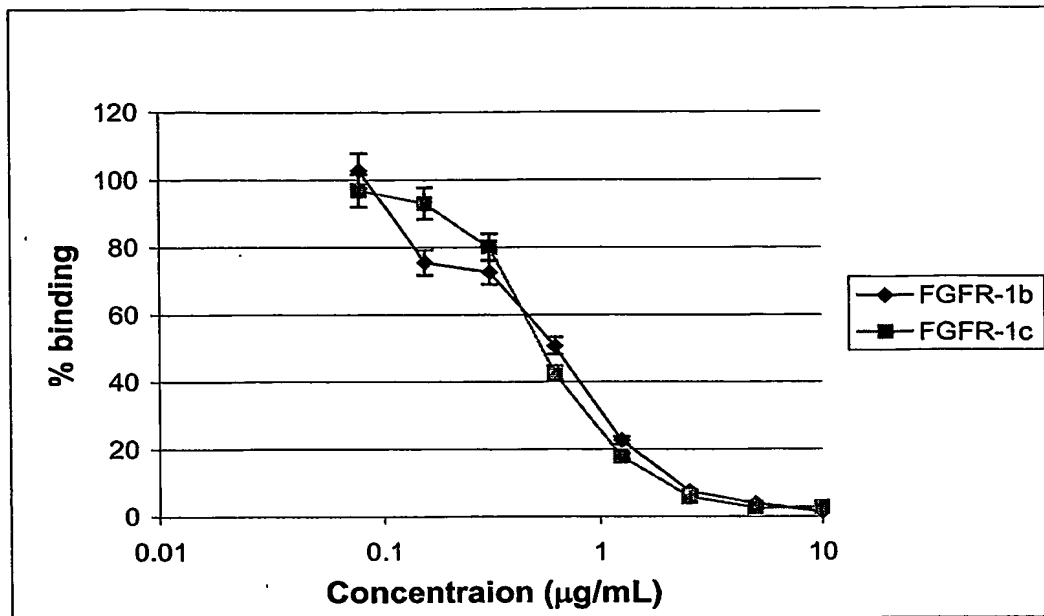


Fig. 4B

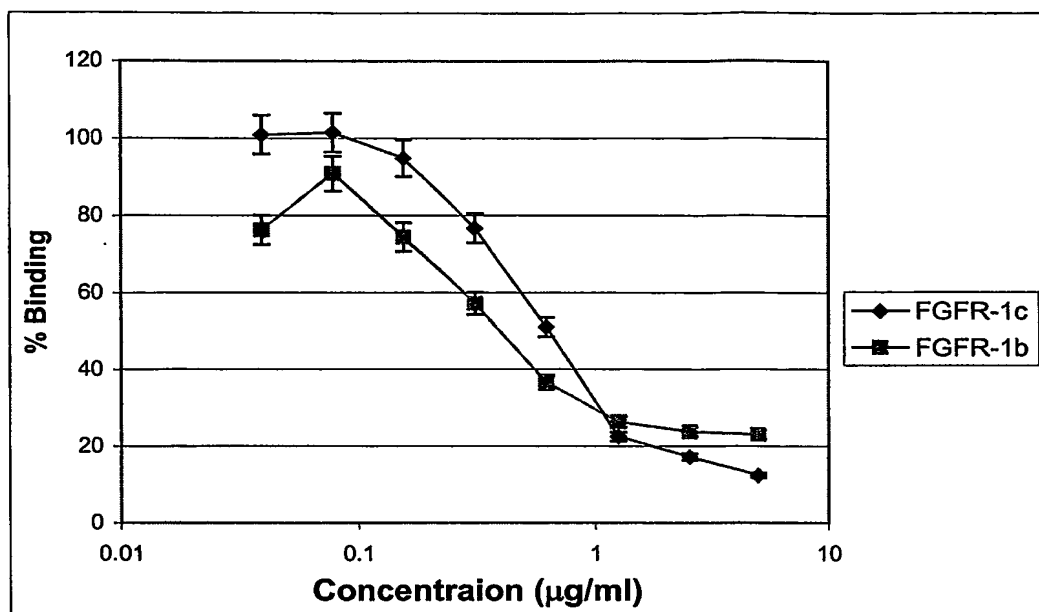


Fig. 5A

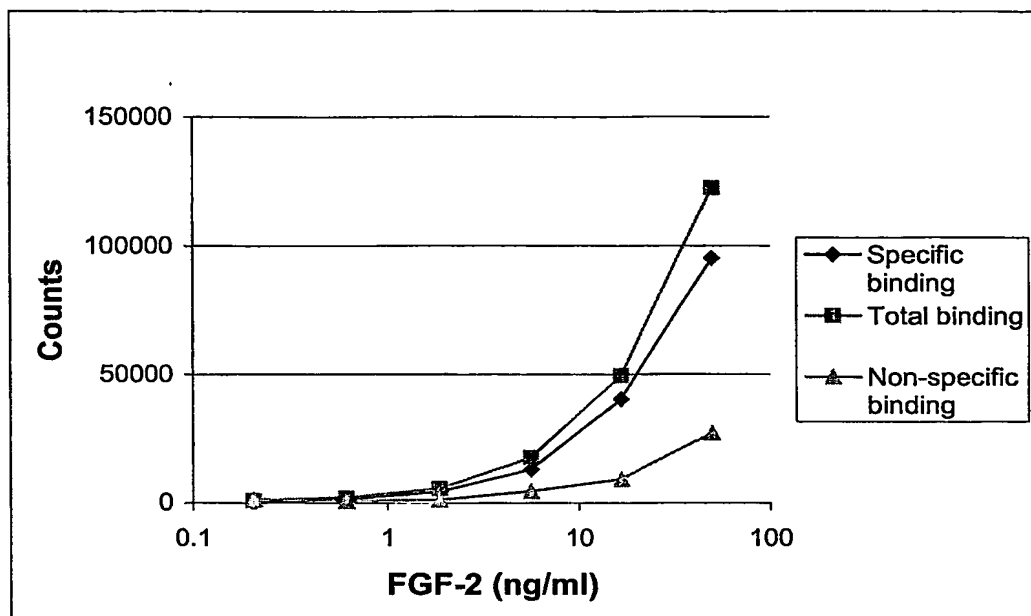


Fig. 5B

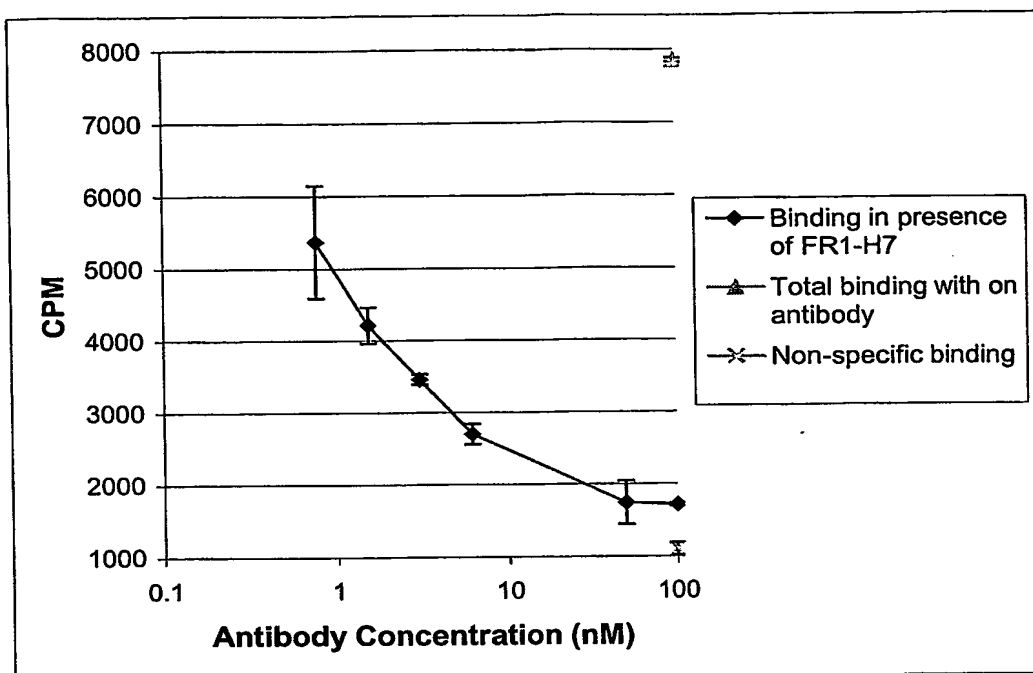


Fig. 6

FGF-2	-	20	20	-
(ng/ml)				
FR1-H7	-	30	-	30
(μ g/ml)				

Molecular weight
marker

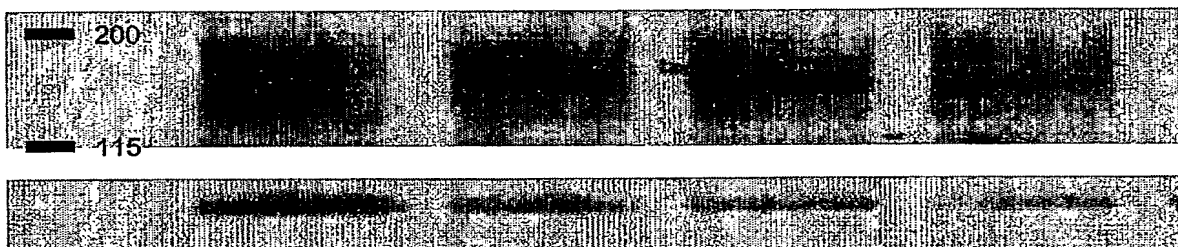


Fig. 7

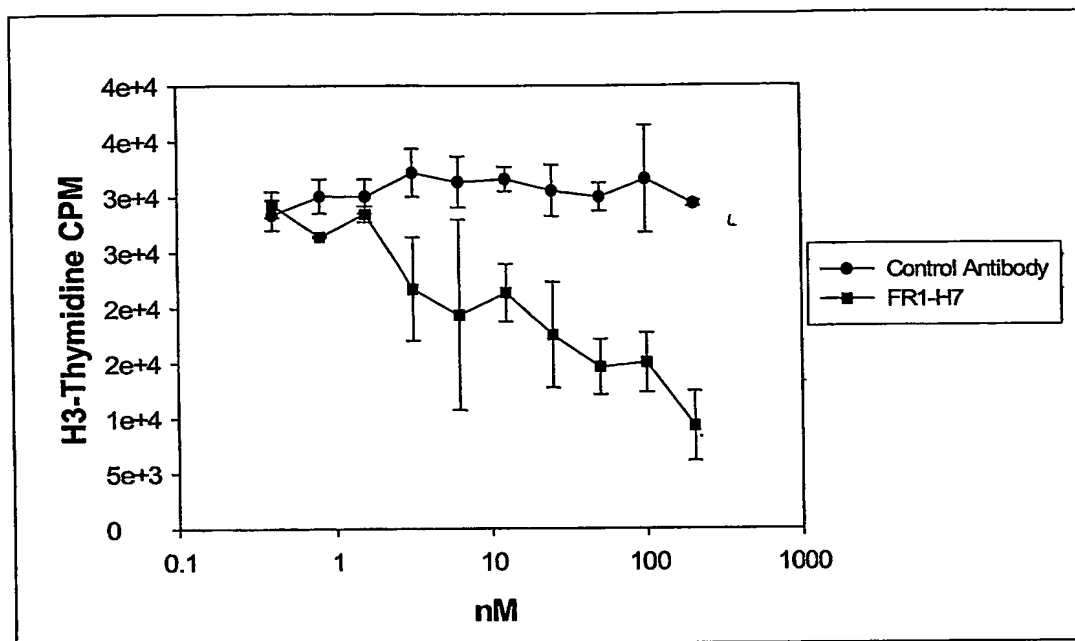


Fig. 8A

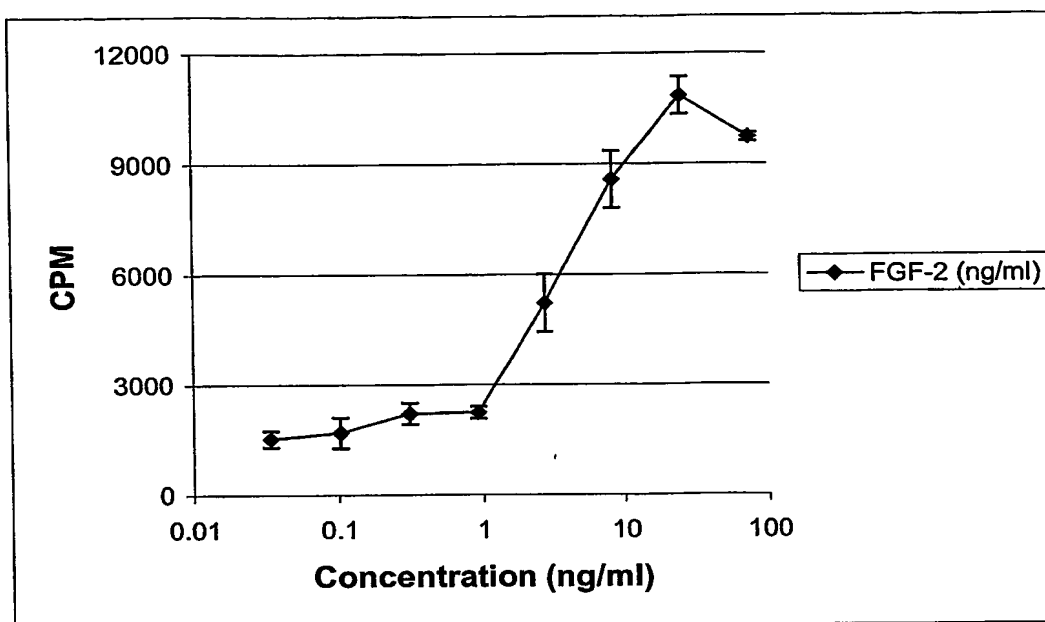


Fig. 8B

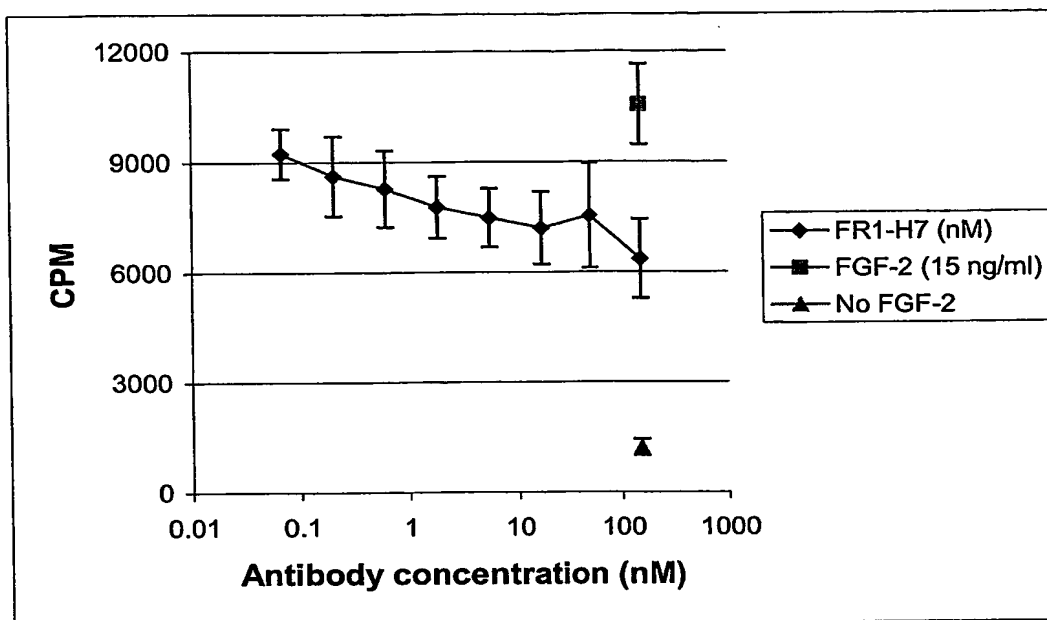
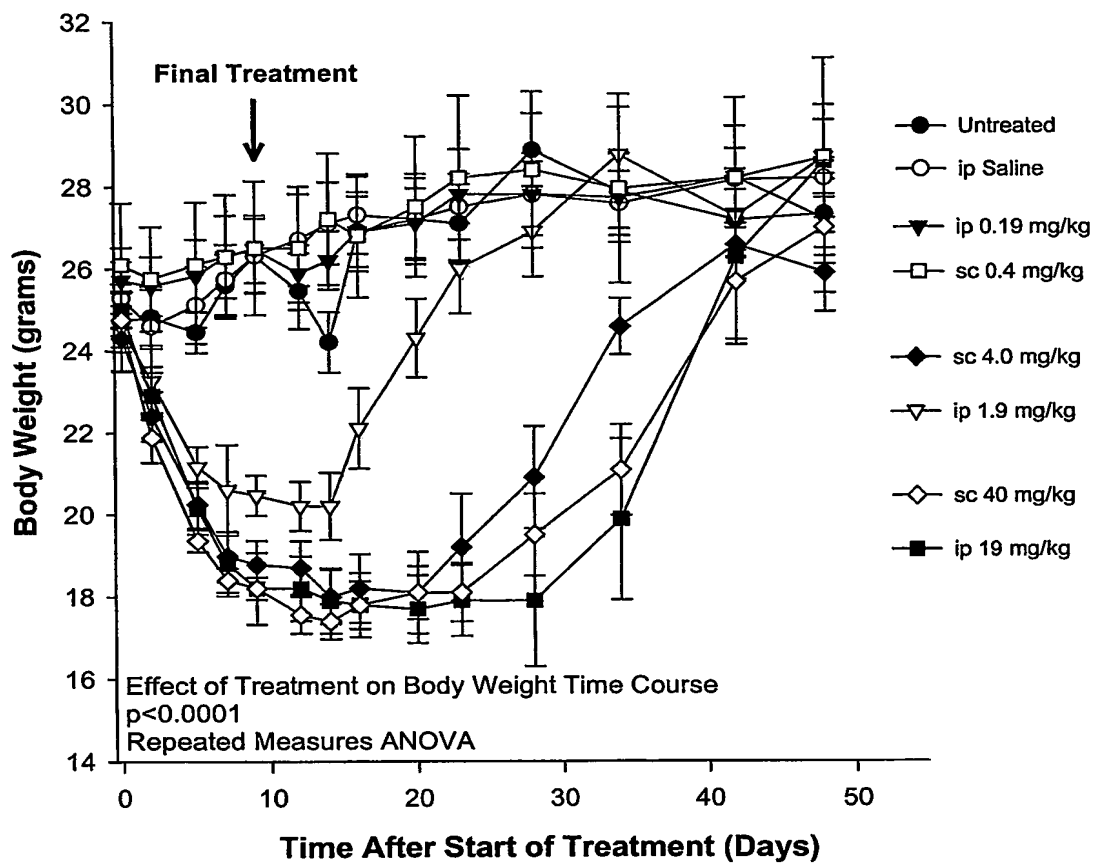


Fig. 9



*13 gram mouse euthanized

Fig. 10

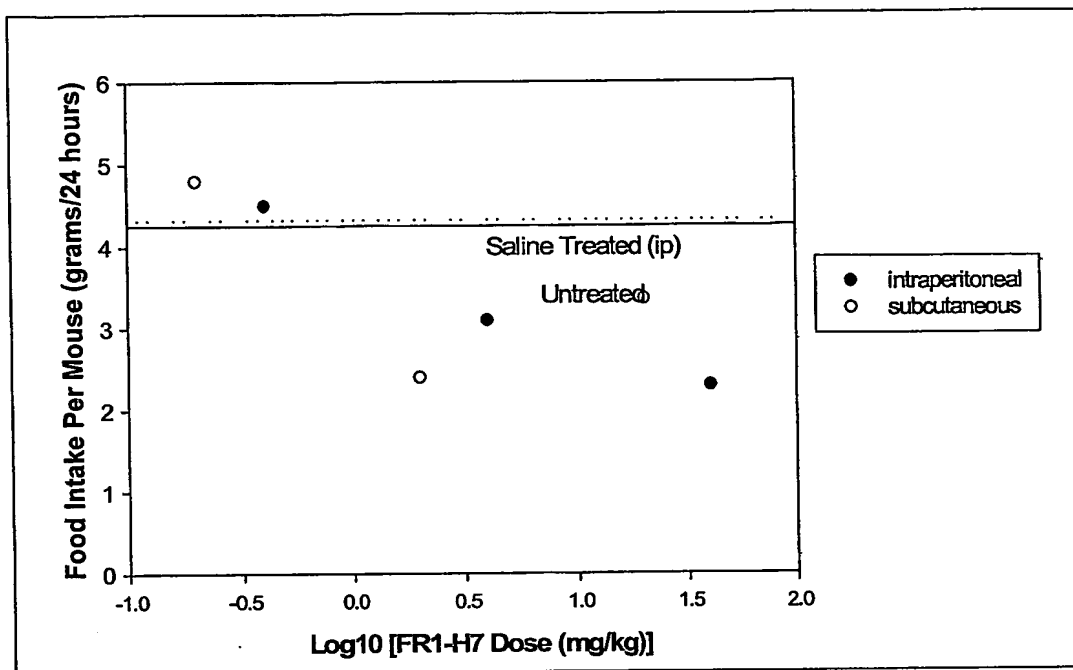


Fig. 11

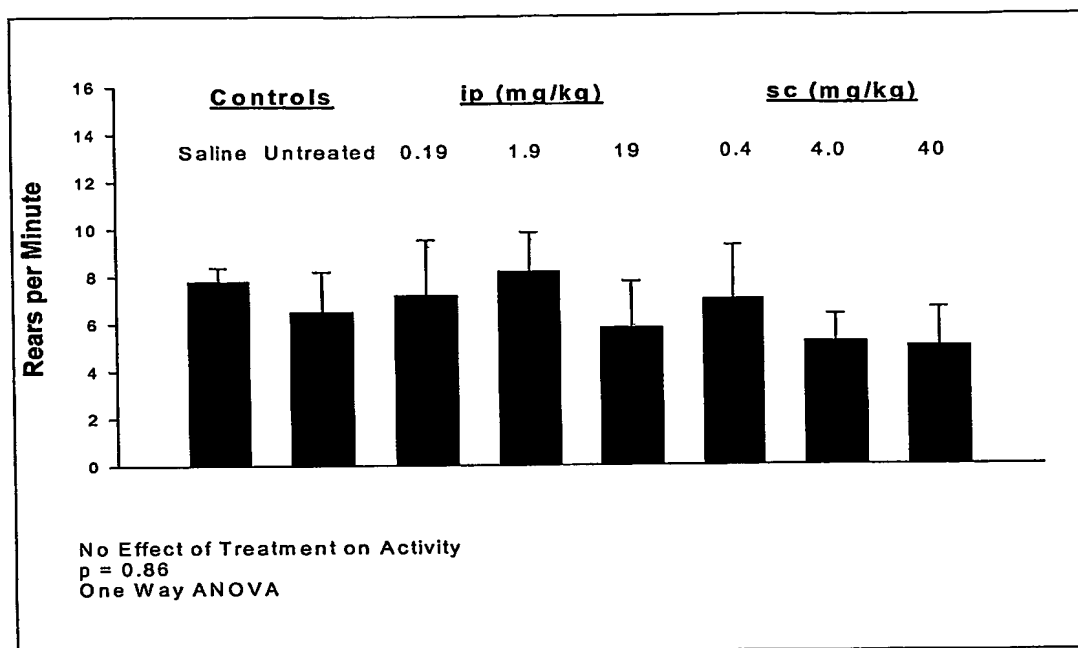


Fig. 12A

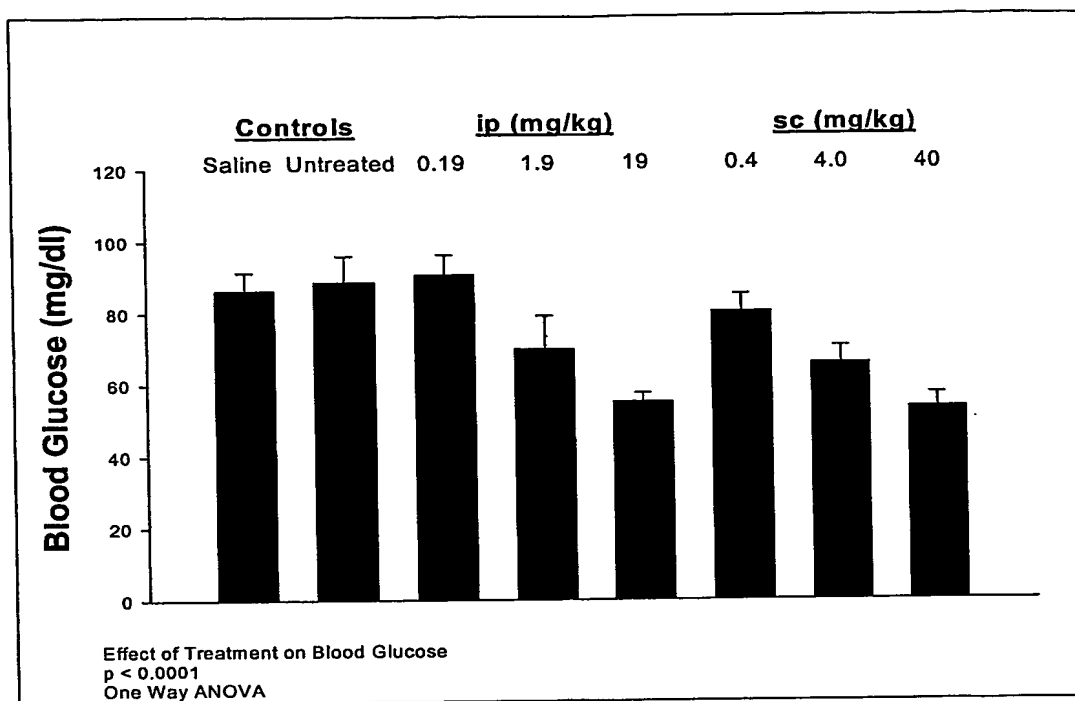


Fig. 12B

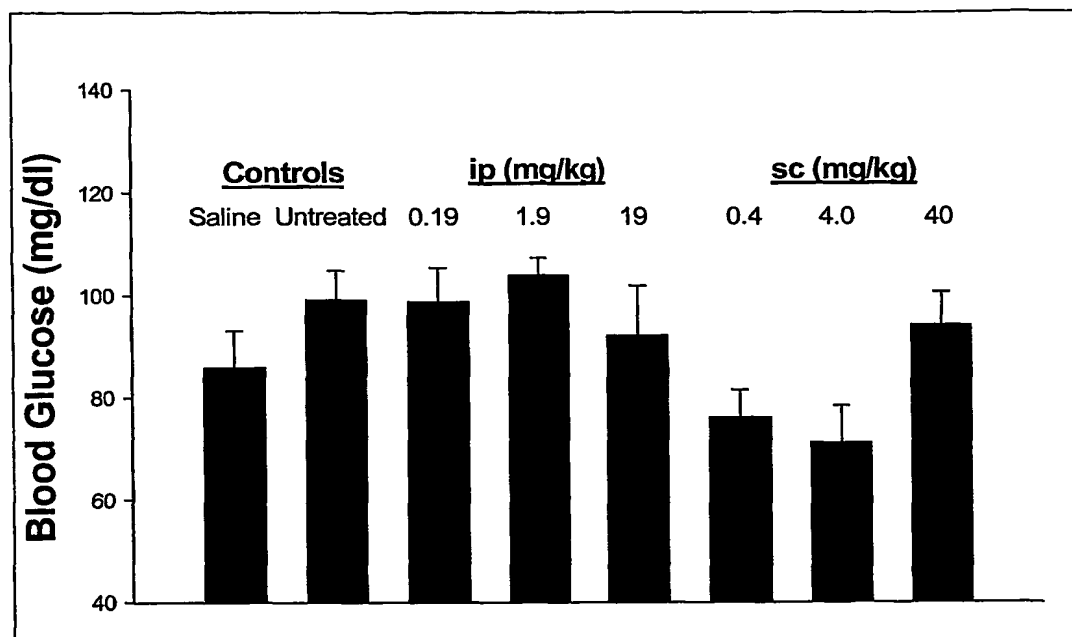


Fig. 13

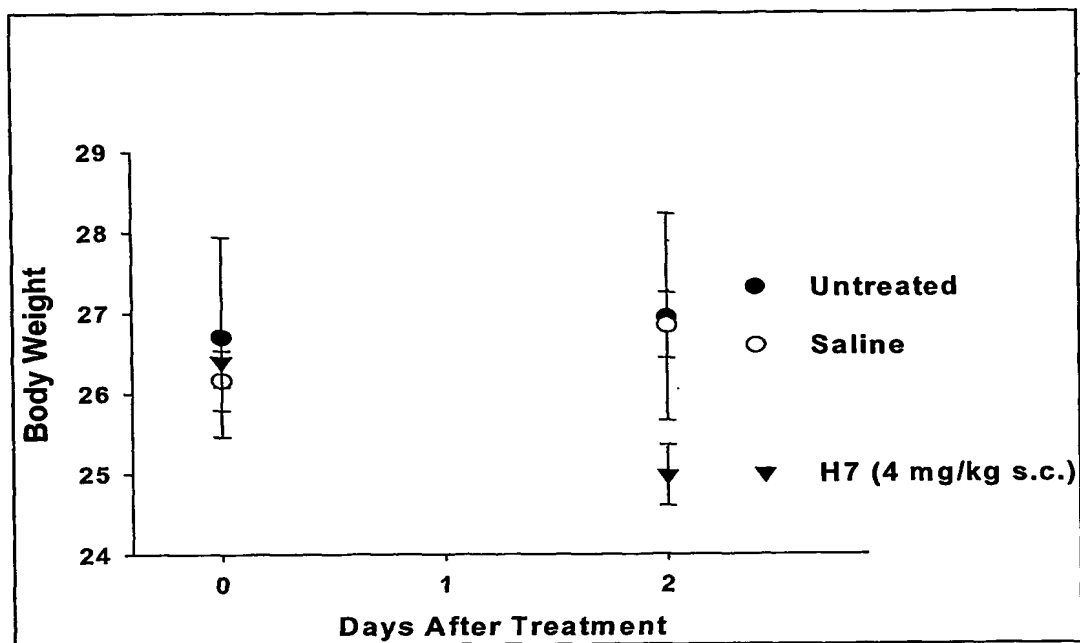


Fig. 14

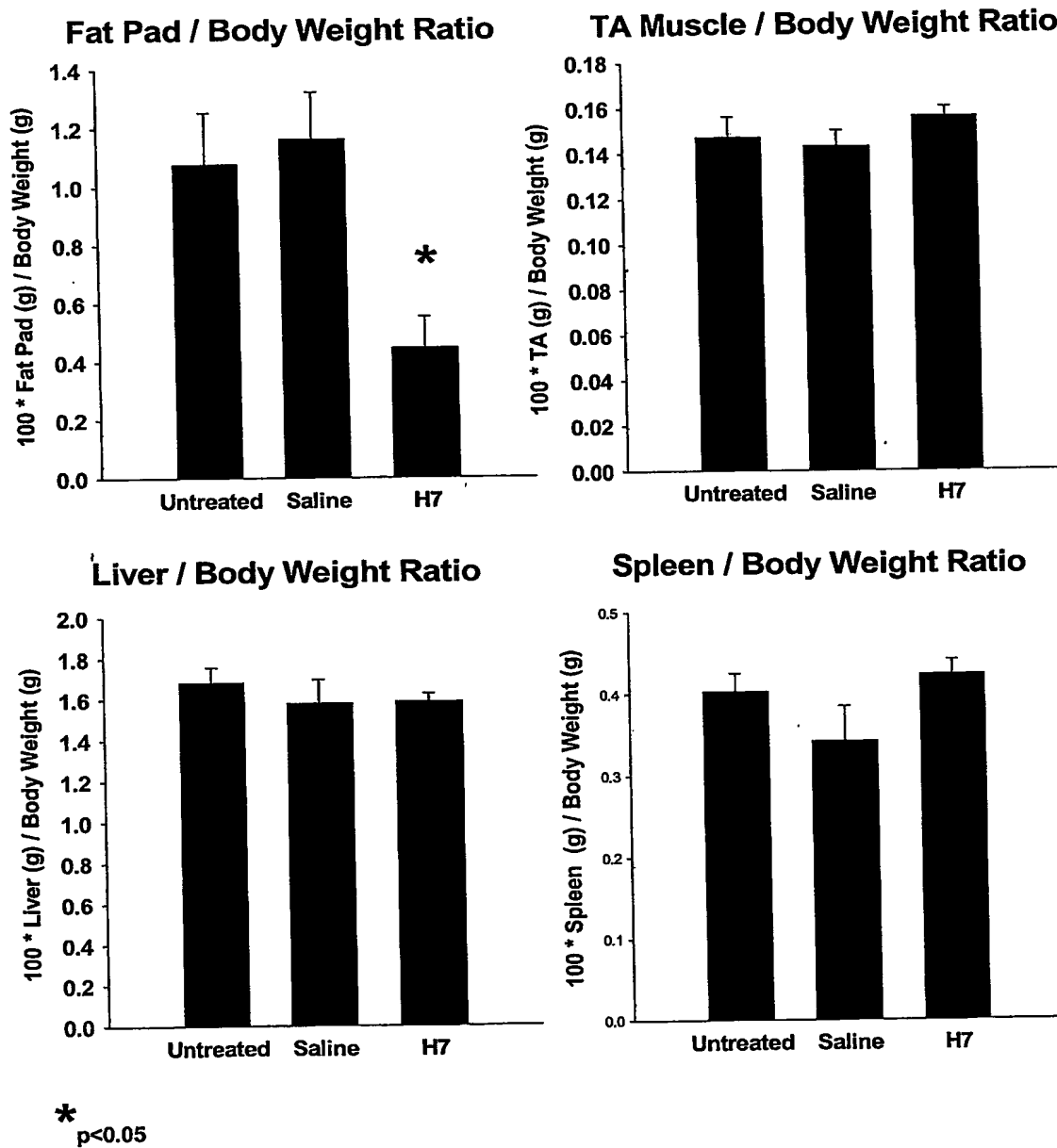


Fig. 15A

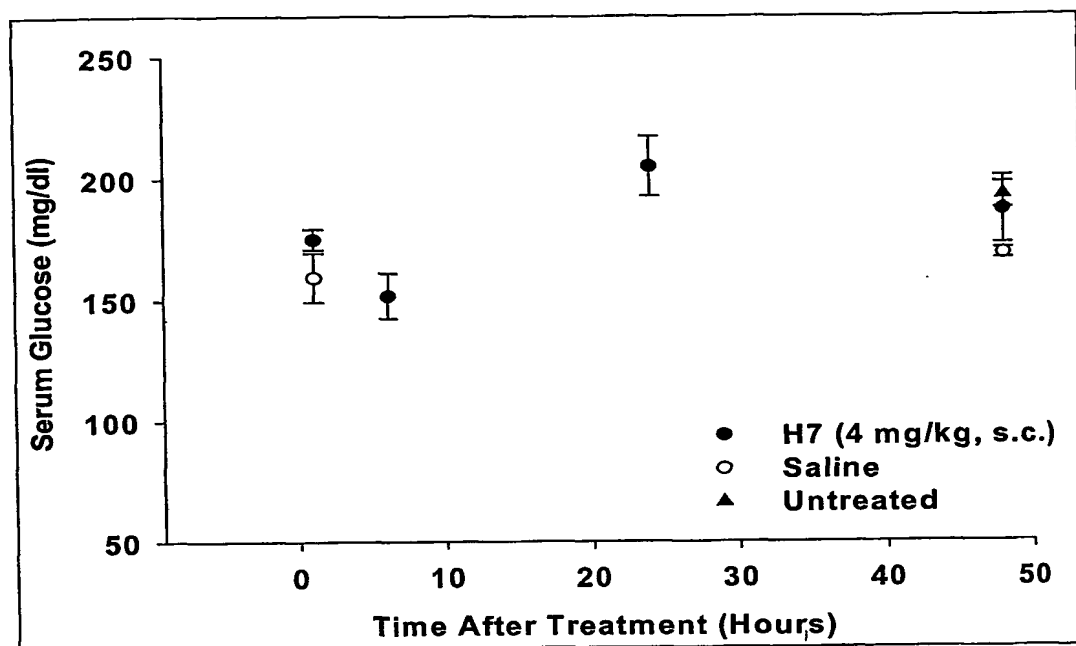
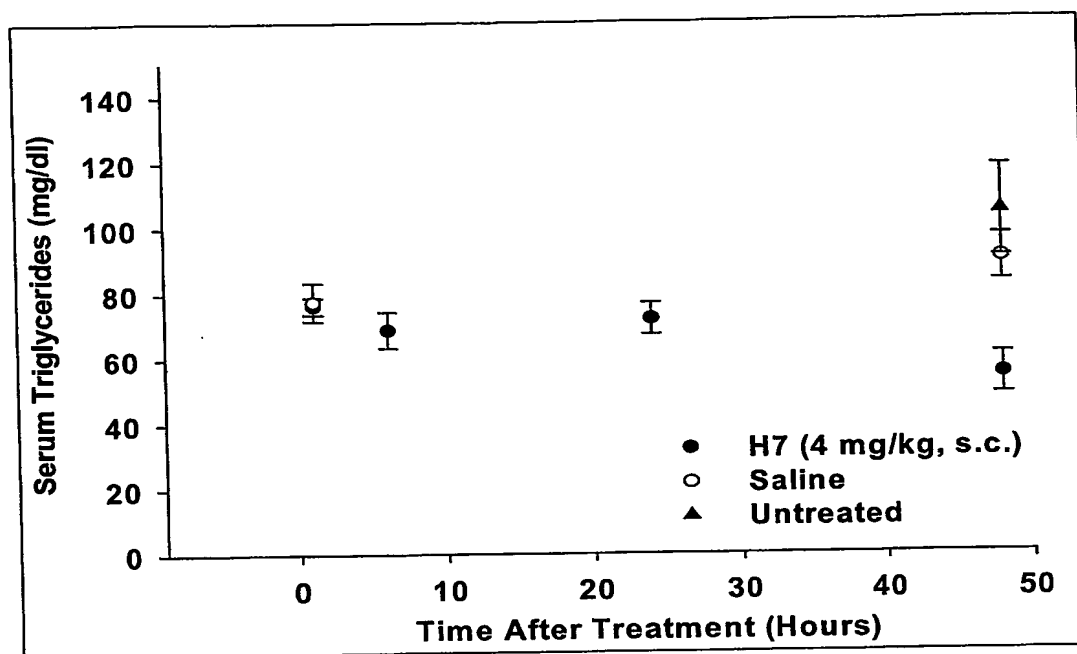


Fig. 15B



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Fig. 15C

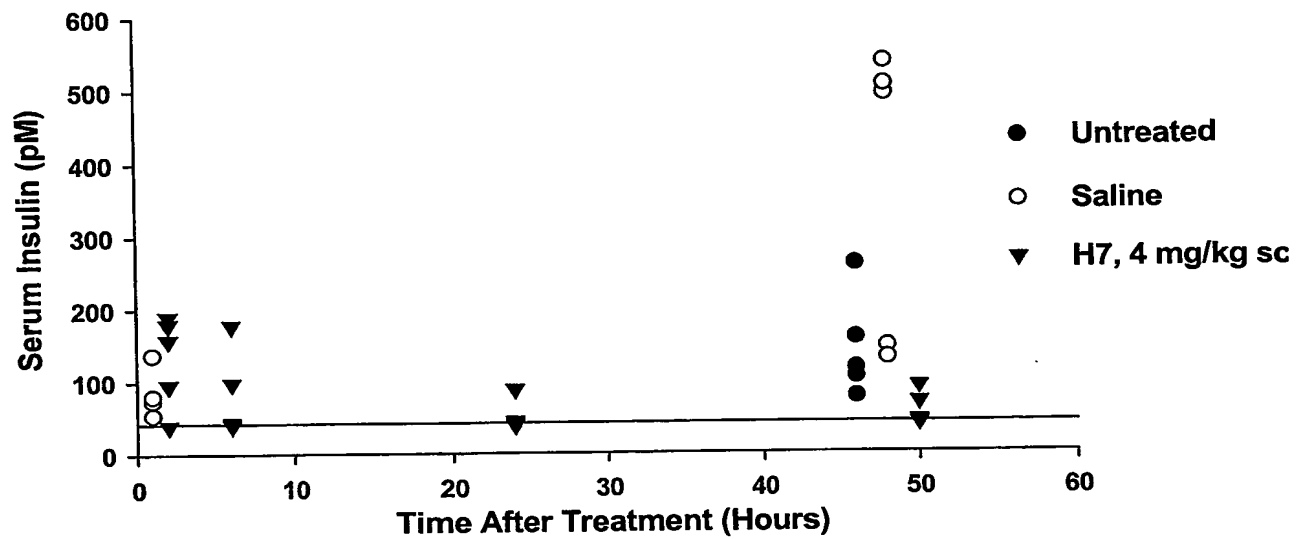


Fig. 15D

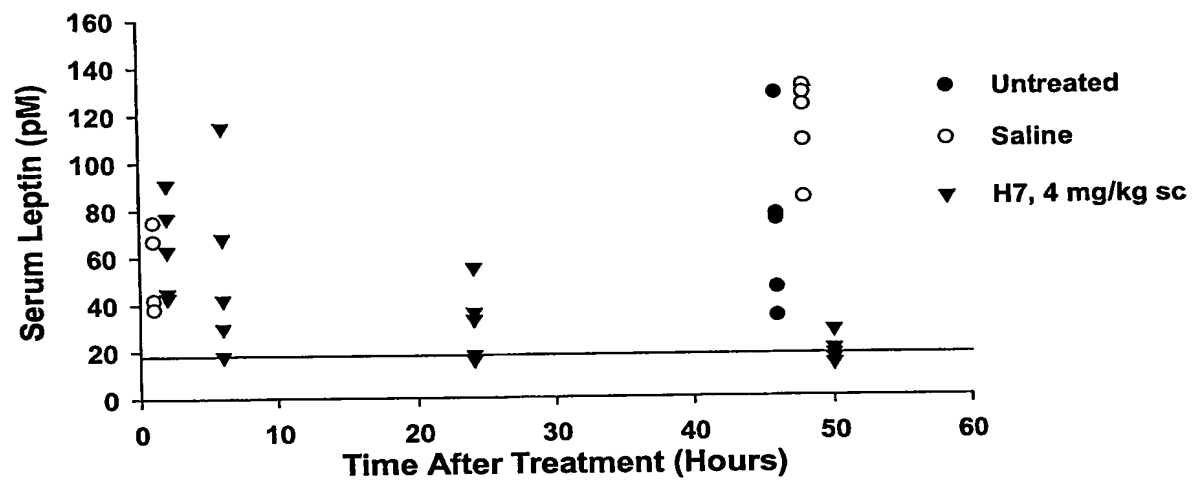


Fig. 16

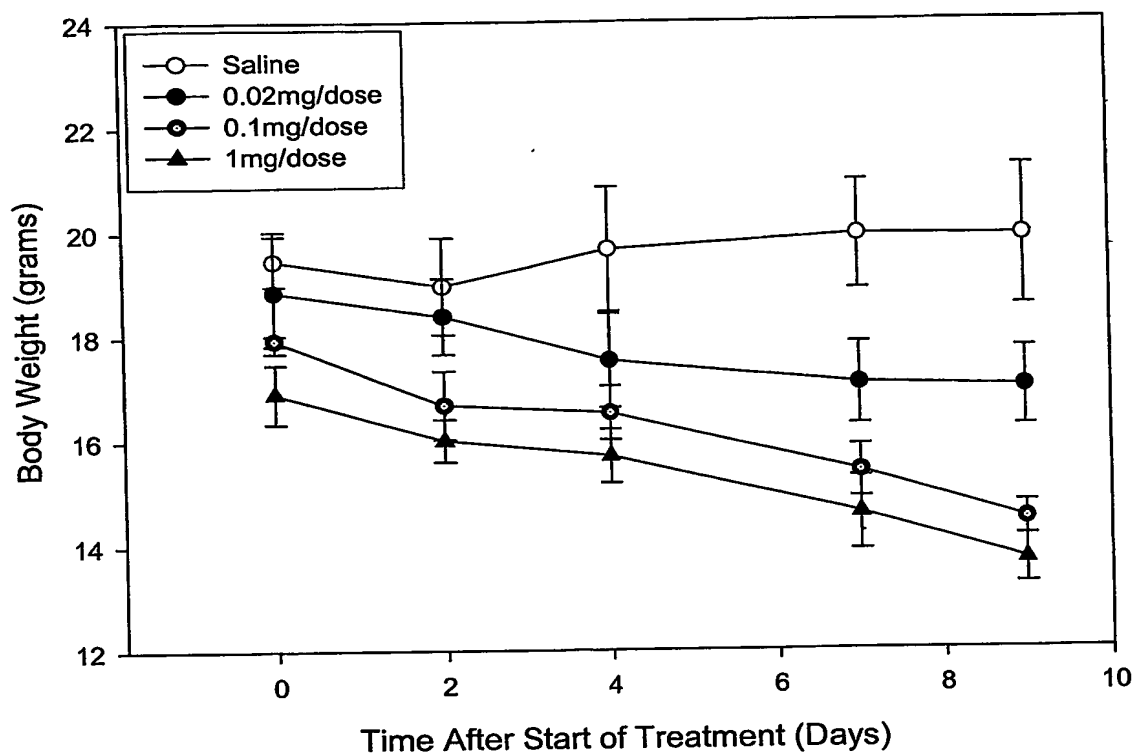


Fig. 17

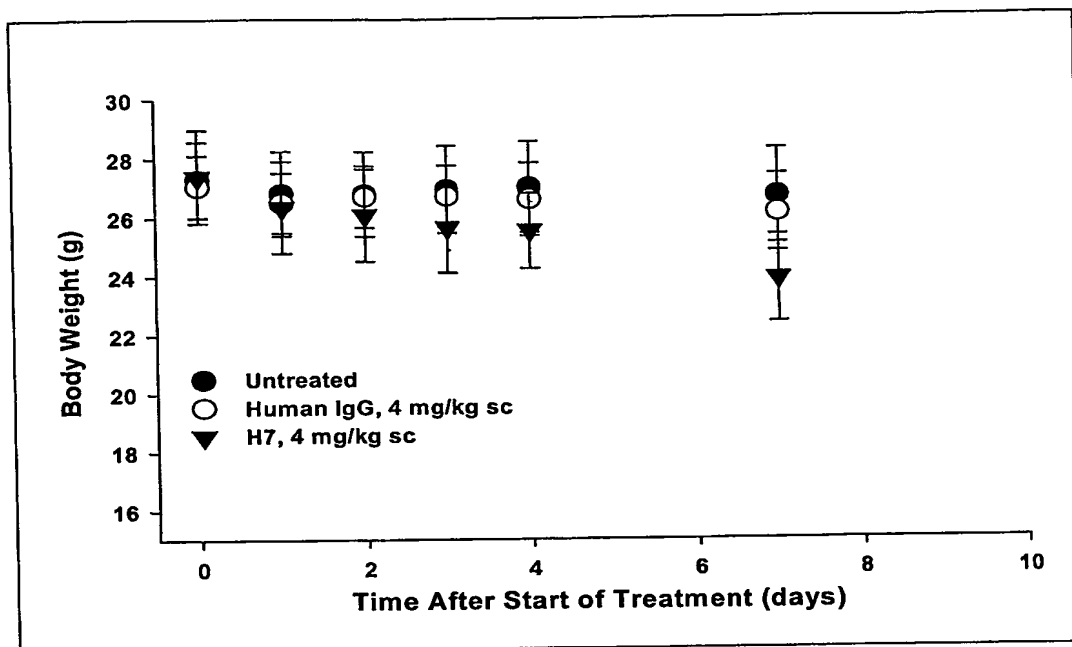


Fig. 18

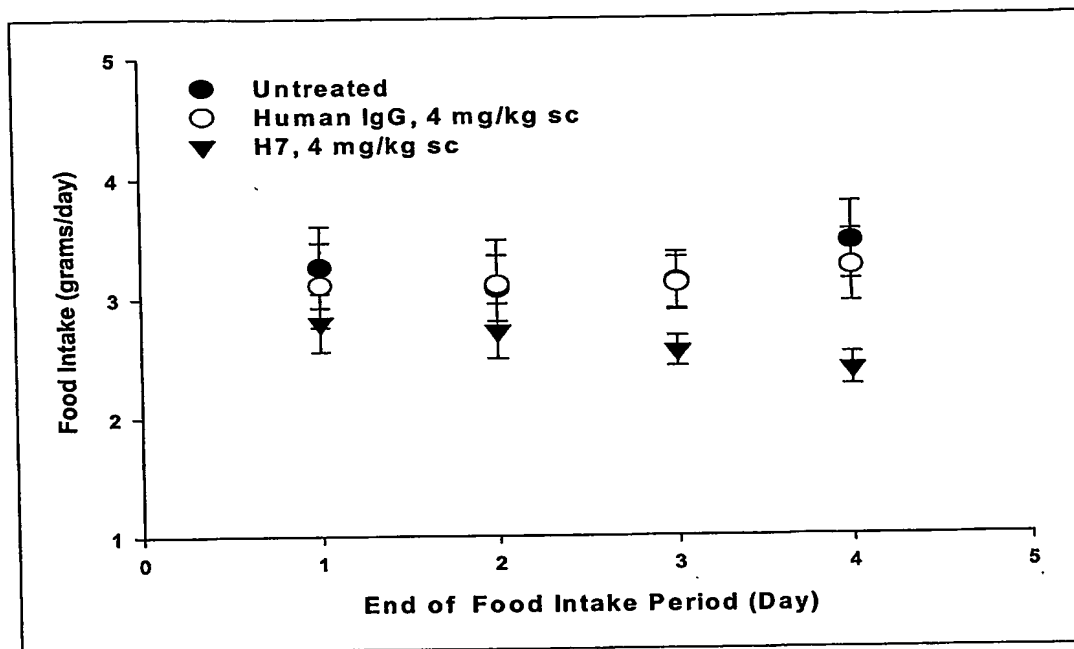


Fig. 19

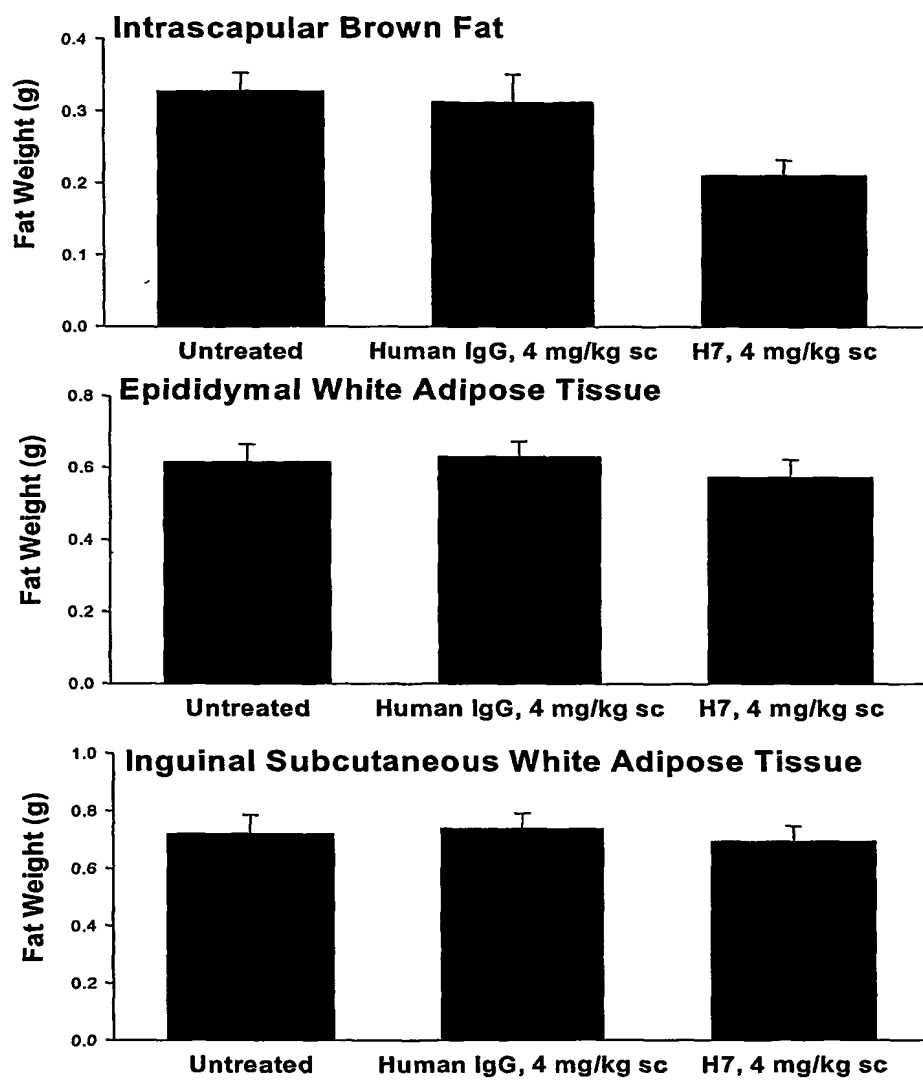


Fig. 20

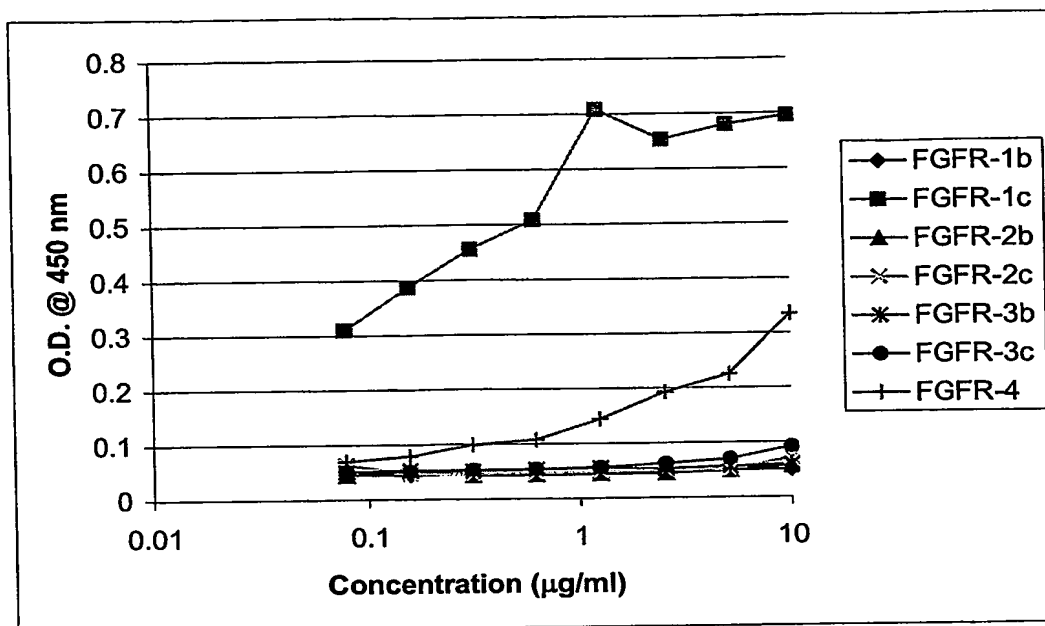


Fig. 21

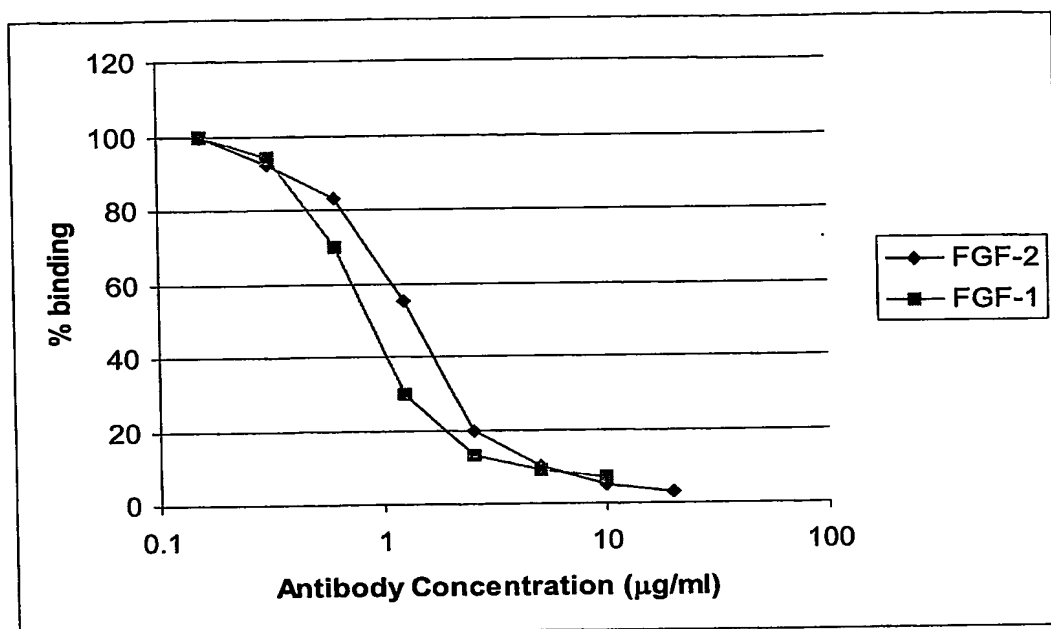


Fig. 22

FGF-2				
(ng/ml)	50	50	-	-
FR1-A1				
(μ g/ml)	-	10	10	-

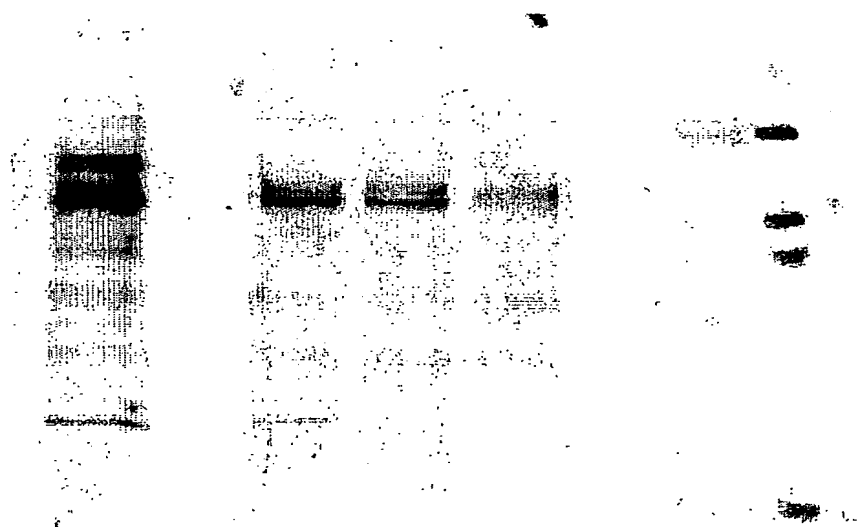


Fig. 23

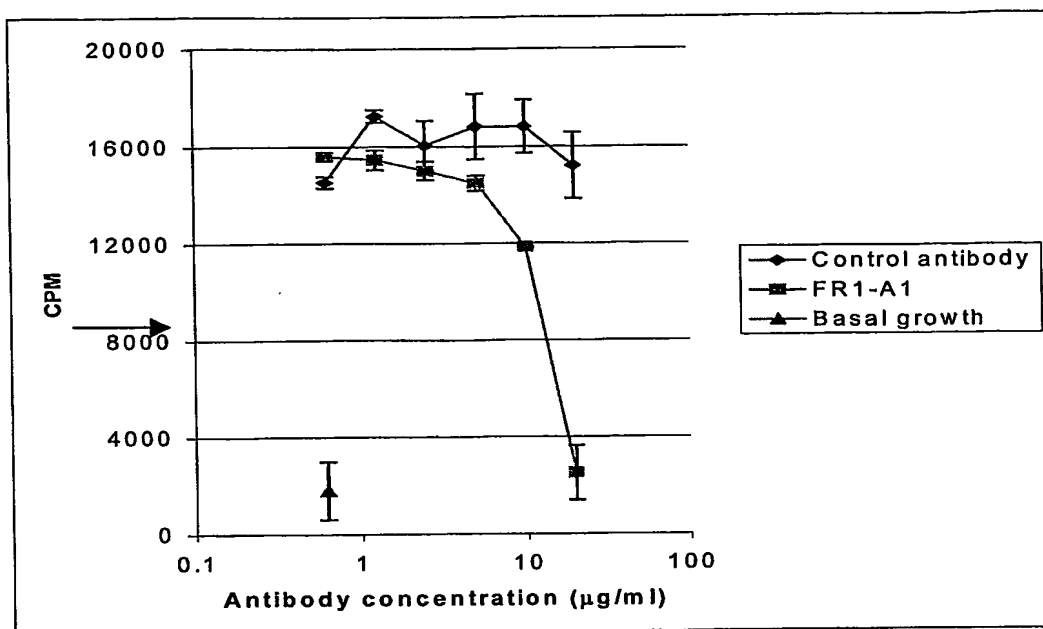


Fig. 24

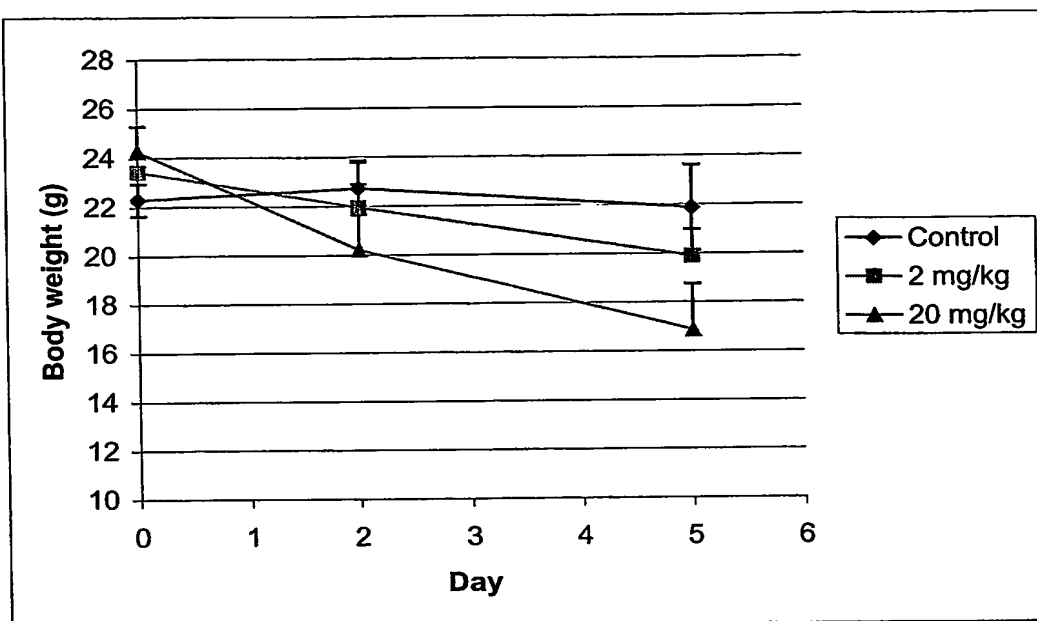


Fig .25

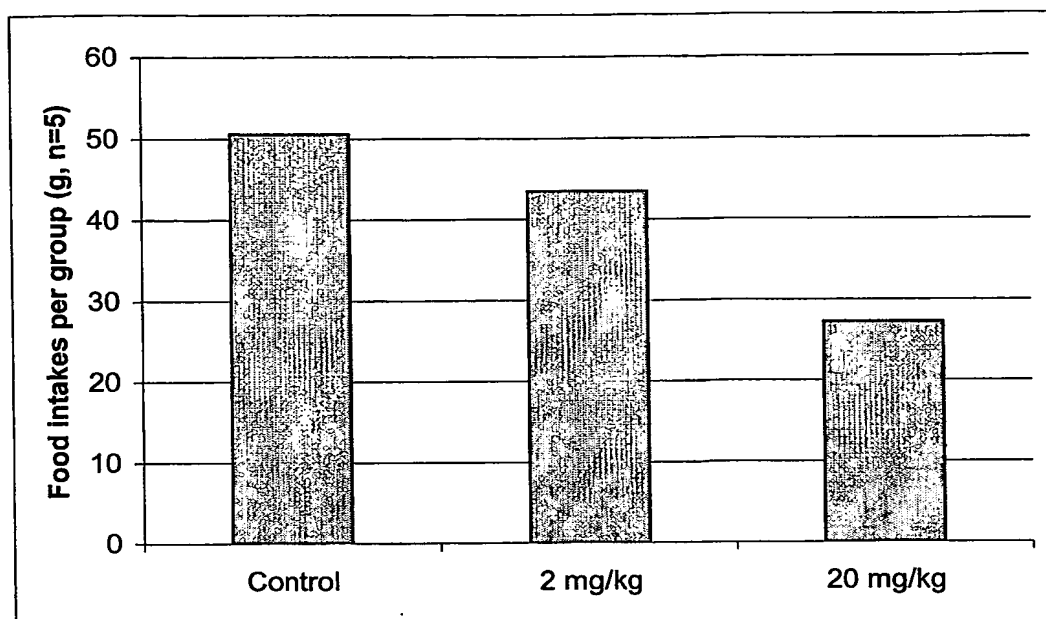


Fig. 26A

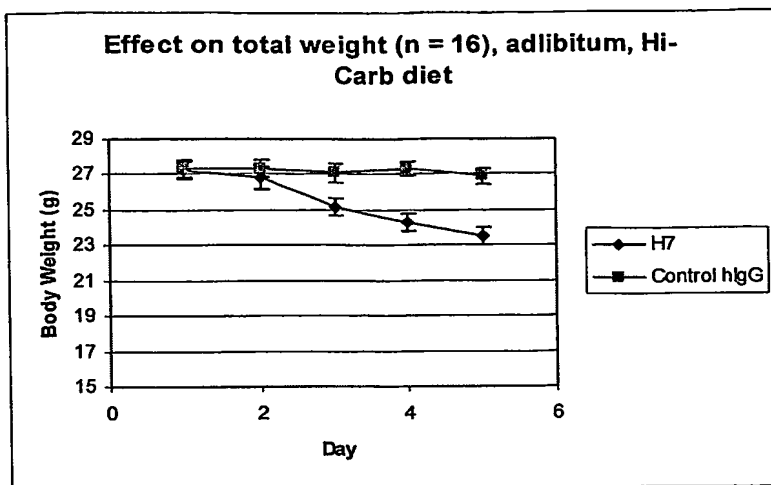


Fig. 26B

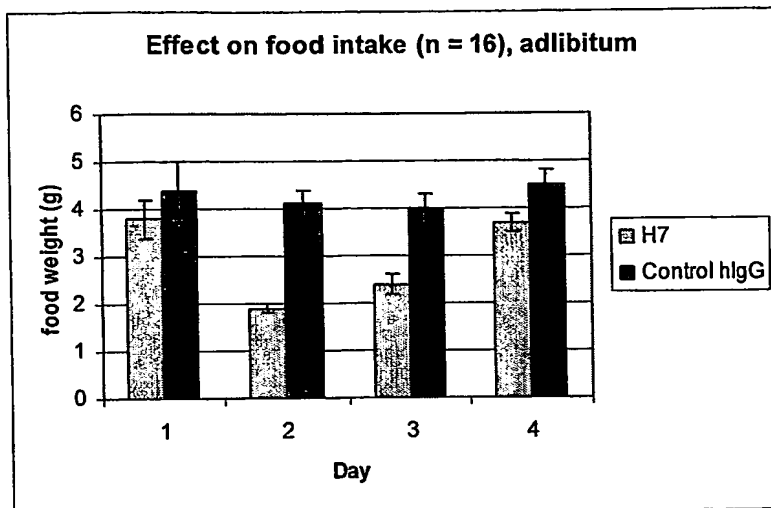


Fig 26C

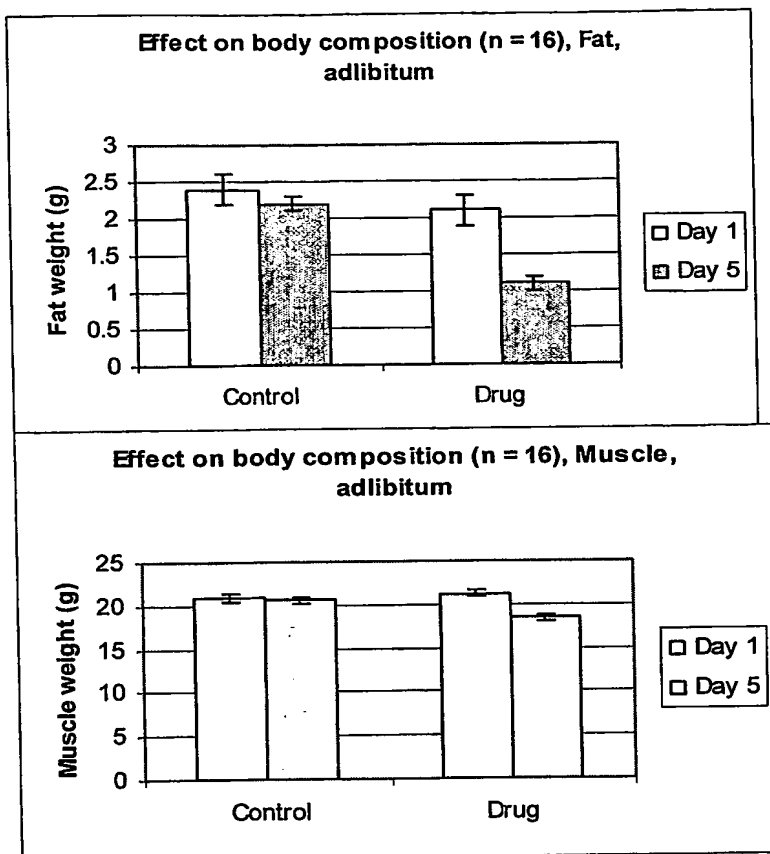


Fig. 26D

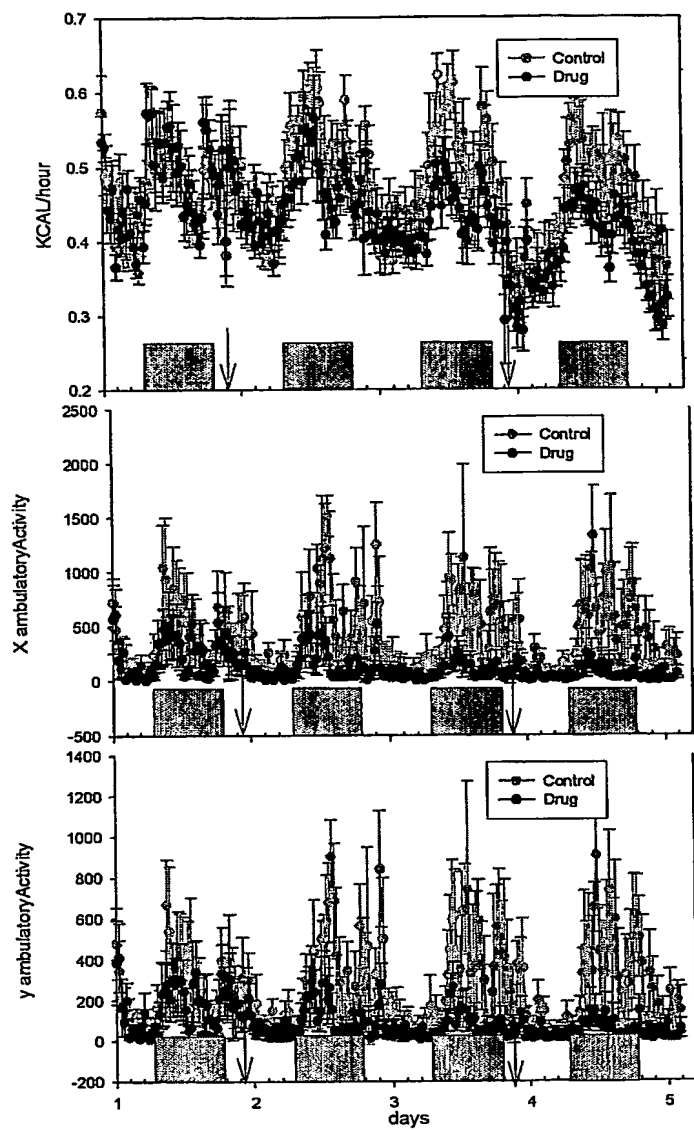


Fig. 26E

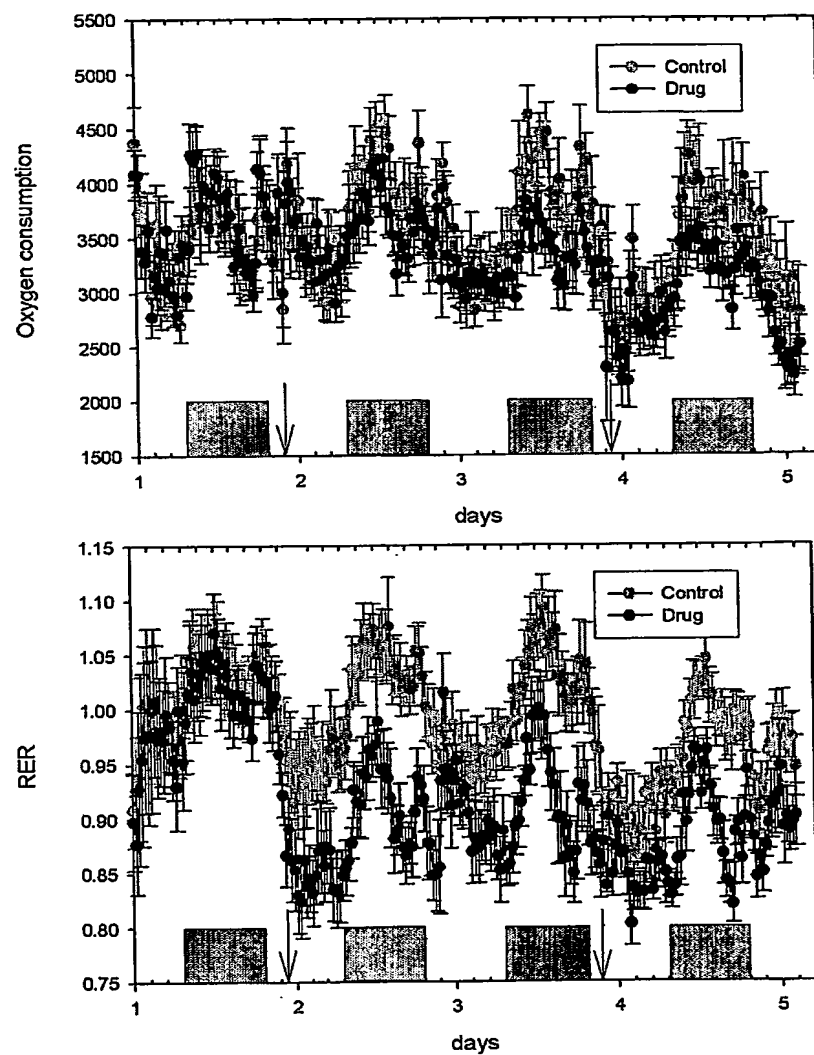


Fig. 27A

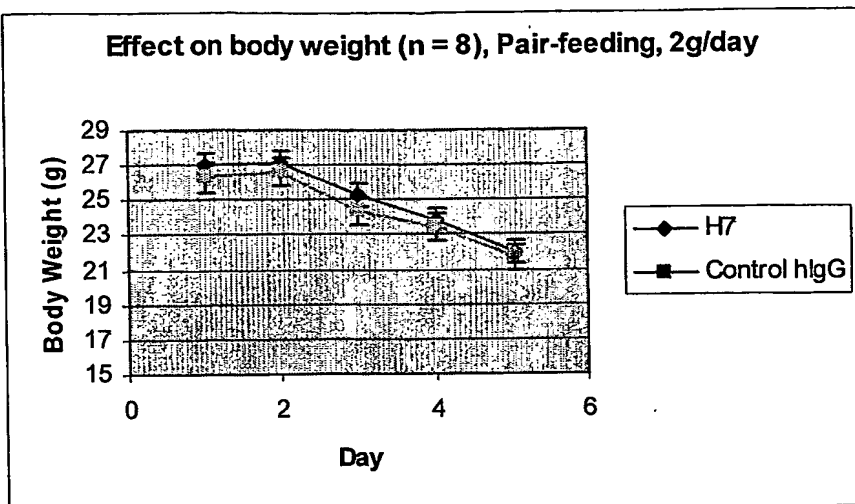


Fig. 27B

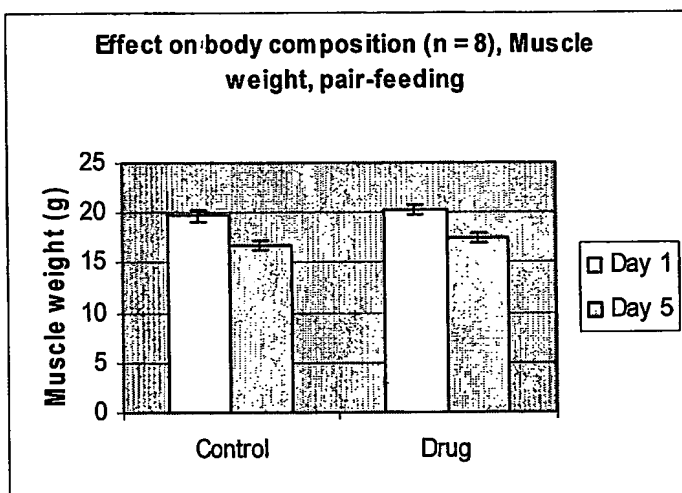
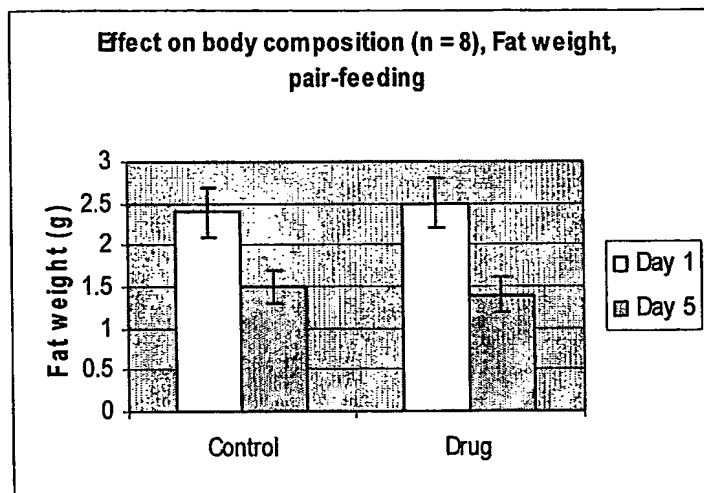


Fig. 27C

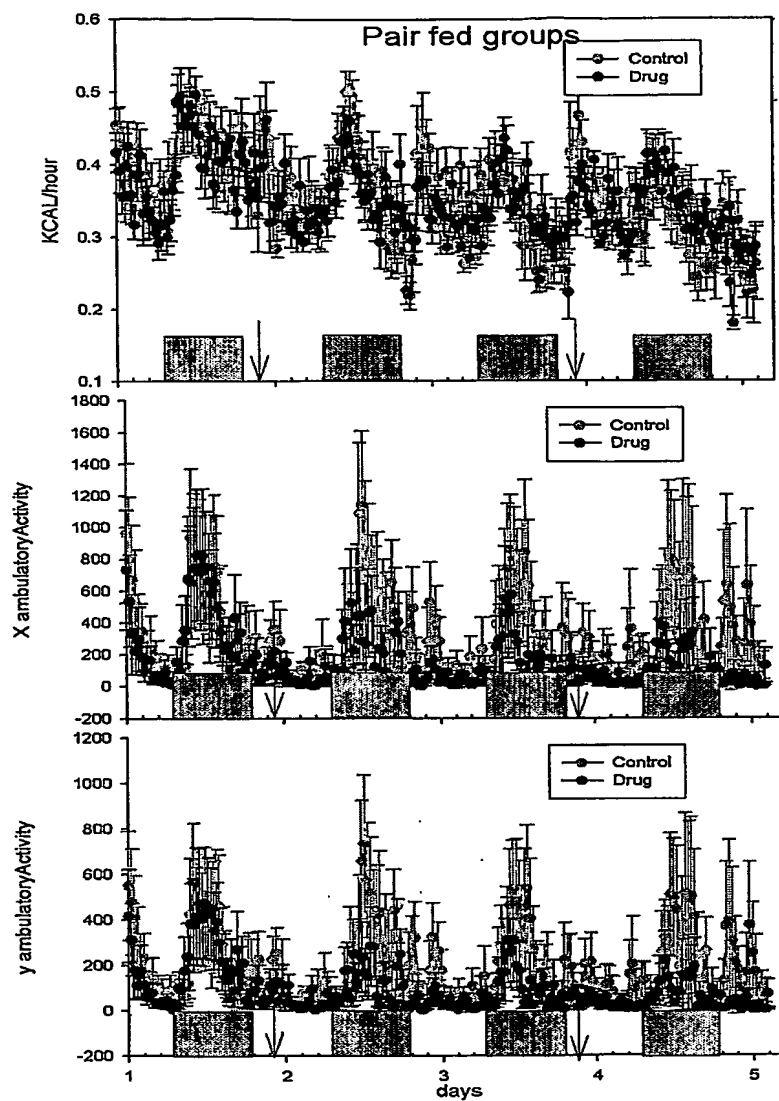


Fig. 27D

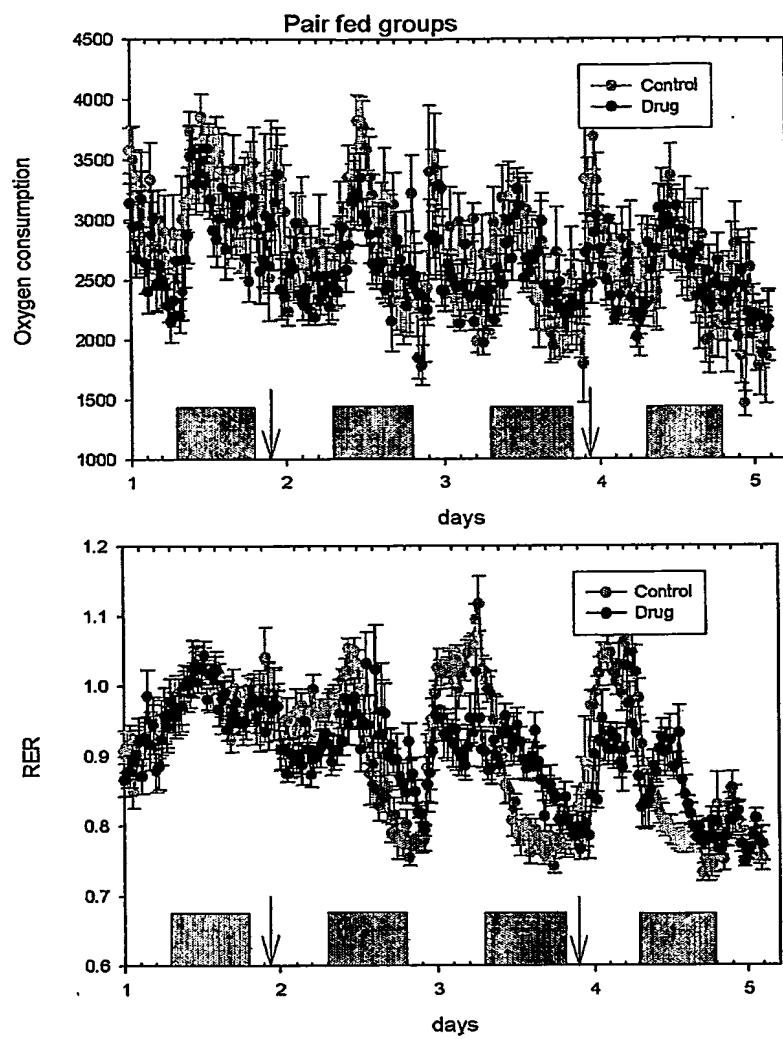


Fig. 28A. FR1-4H antibody variable sequences

Heavy chain variable region sequence (cDNA)
(gamma heavy chain)

CAGGTGCAGCTGGTGGAGTTTGGCCCAGGACTGGTGAAGCCTTCGGAGAC	50
CCTGTCCCTCACCTGCACTGTCTCTGGTGGCTCCATCAGTAGTTACTACT	100
GGAGCTGGATCCGGCAGCCCCAGGGAAGGGACTGGAGTGGATTGGGTAT	150
ATCTATTACAGTGGGAGCACCAACTACAACCCCTCCCTCAAGAGTCGAGT	200
CGCCATATCAGTAGACACGTCCAAGAACCAGTTCTCCCTGAAGCTGAGCT	250
CTGTGACCGCCGCGGACACGGCCGTGTATTACTGTGCGAGAGAGTATTAC	300
TATGATAGTAGTGGTTATTACTTTTATGCTTTTGATATCTGGGGCCAAGG	350
GACCACGGTCACCGTCTCAAGC	372

Heavy chain variable region sequence (amino acid)

QVQLVEFGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQPPGKGLEWIGY	50
IYYSGSTNYPNPSLKSRVAISVDTSKNQFSLKLSSVTAADTAVYYCAREYY	100
YDSSGYFFYAFDIWGQGTFTVTVSS	124

Light chain variable region sequence (cDNA)

CTGCCTGTGCTGACTCAGCCCCCTCAGCGTCTGGGACCCCCGGGCAGAG	50
GGTCTCCATCTCTTGTCTGGAAGCAGCTCCAACATCGGAAGTAATTATG	100
TATACTGGTACCAGCAGCTCCCAGGAACGGCCCCAACTCCTCATCTTT	150
AGGAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAA	200
GTCTGGCACTTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATG	250
AGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAGTGGTTGGGTG	300
TTCCGGCGGAGGGACCAAGCTGACCGTCCTAGGT	333

Light chain variable region sequence (amino acid).
(Lambda light chain)

LPVLTQPPSASGTPGQRVSISCSGSSSNIGSNYVYQQLPGTAPKLLIF	50
RNNQRPSGVDPDRFSGSKSGTSASLAISGLRSEDEADYYCAAWDDSLSGWV	100
FGGGTKLTVLG	111

Fig. 28B. FR1-4H antibody variable sequence CDRs

CDR amino acid sequences

V_H:

CDR1	SYAWS
CDR2	YIYYSGSTNYNPSLKS
CDR3	EYYDSSGYFYAFDI

V_L:

CDR1	SGSSSNIGSNYVY
CDR2	RNNQRPS
CDR3	AAWDDSLSGWV

CDR nucleic acid sequences

V_H:

CDR1	AGTTACTACTGGAGC
CDR2	TATATCTATTACAGTGGGAGCACCAACTACAACCCCTCCCTCAAGAGT
CDR3	GAGTATTACTATGATAGTAGTGTTATTACTTTTATGCTTTTGATATC

V_L:

CDR1	TCTGGAAGCAGCTCCAACATCGGAAGTAATTATGTATAC
CDR2	AGGAATAATCAGCGGCCCTCA
CDR3	GCAGCATGGGATGACAGCCTGAGTGGTTGGGTG

Fig. 29

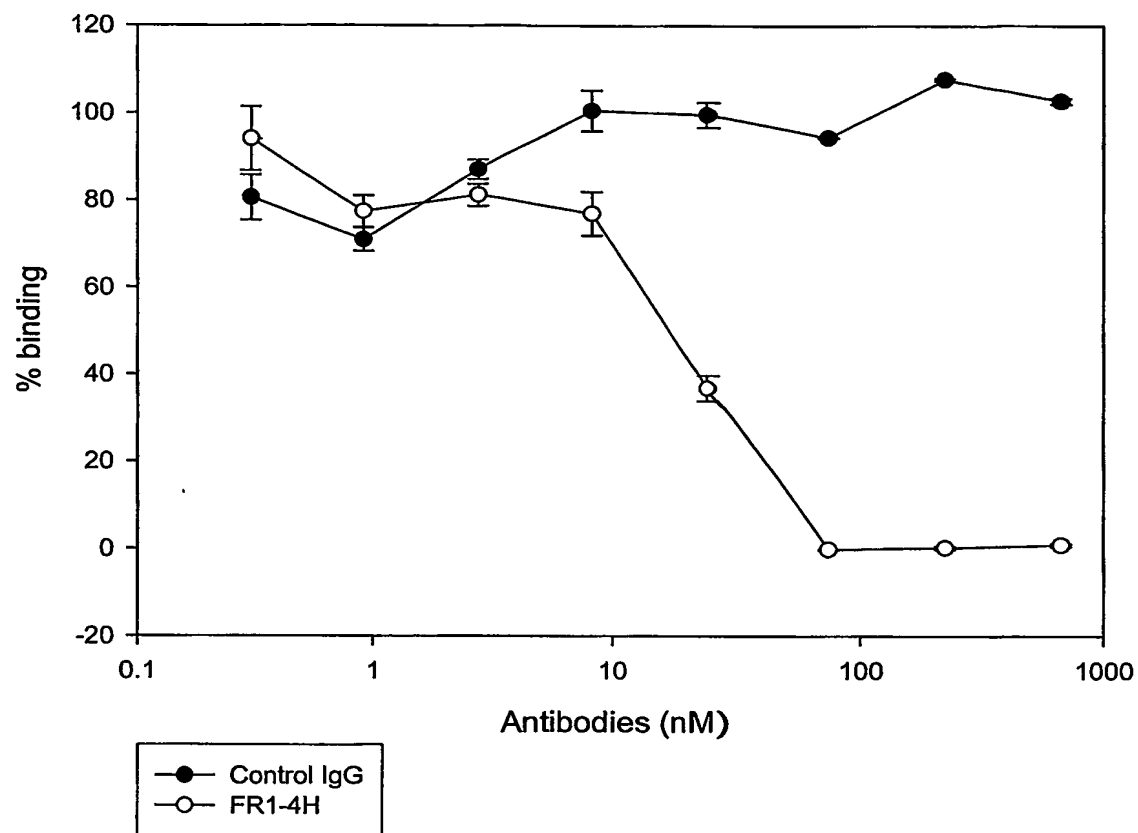
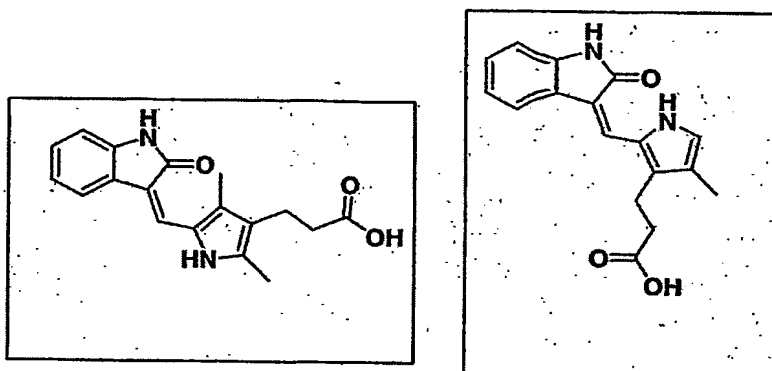
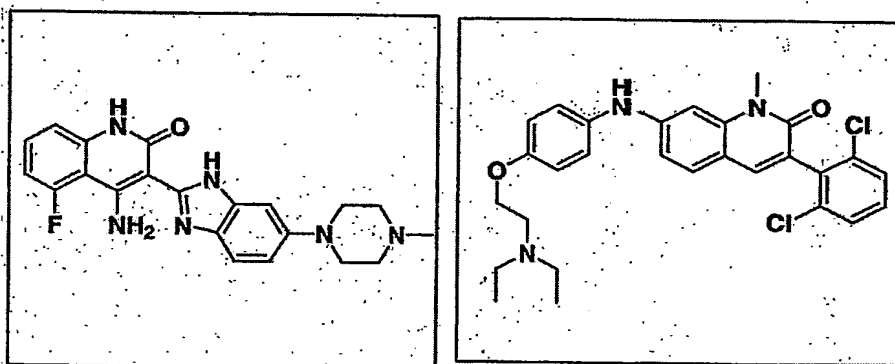


Fig. 30. Examples of FGFR small molecule inhibitors.

Indolinone derivatives:



Quinolinone derivatives:



Pyrimido-pyridine derivatives:

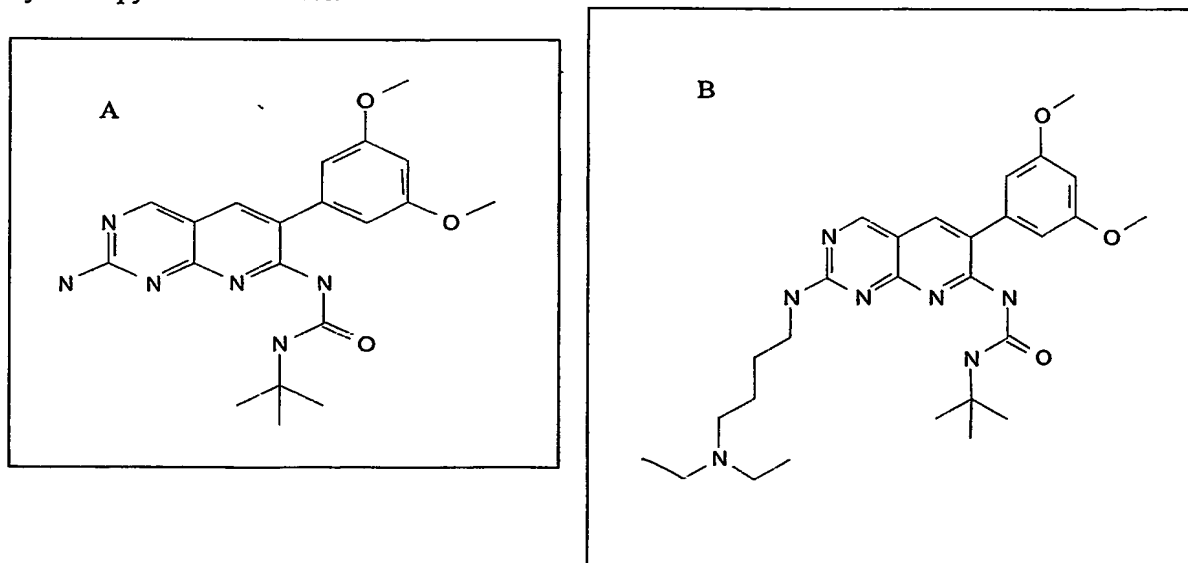


Fig. 31.

FGF	-	5 ng	5 ng	5 ng	5 ng	5 ng	5 ng
Pyrimido-pyridines derivative A	-	-	0.5 μ M	0.2 μ M	0.1 μ M	0.05 μ M	0.02 μ M



FGF	-	100 ng	100 ng	100 ng	100 ng
Pyrimido-pyridines derivative B	-	-	0.1 μ M	0.03 μ M	0.01 μ M

